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SEQUENCE LISTING

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 Dash, Srikanta
 Coy, David H.

<120> FLAVIVIRUS FUSION INHIBITORS

<130> 12920.0014.00PC00 (TUMC014P)

<140> PCT/US03/35666
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Tyr	Gln	Val	Arg	Asn	Ser	Ser	Gly	Leu	Tyr	His	Val	Thr	Asn	Asp	Cys
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Pro	Asn	Ser	Ser	Ile	Val	Tyr	Glu	Ala	Ala	Asp	Ala	Ile	Leu
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Val	Gly	Gln	Leu	Phe	Thr	Phe	Ser	Pro	Arg	Arg	His	Trp	Thr	Thr	Gln
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Asp Cys

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carbohydrate

<400> 3

Ser Pro Arg Arg His Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr
1 5 10 15

Pro Gly His Ile Thr Gly His Arg Met Ala Trp Asp Met Met Met Asn
20 25 30

Trp Ser Pro Thr
35

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Met Met Met Asn Trp Ser Pro Thr Ala Ala Leu Leu Arg Ile Pro Gln
1 5 10 15

Ala Ile Met Asp Met Ile Ala Gly Ala His Trp Gly Val Leu Ala Gly
20 25 30

Ile Lys Tyr Phe Ser Met Val Gly Asn Trp
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<400> 5

Arg	Val	Thr	Asp	Pro	Asp	Thr	Asn	Thr	Thr	Ile	Leu	Thr	Asn	Cys	Cys
1				5					10					15	

Gln	Arg	Asn	Gln	Val	Ile	Tyr	Cys	Ser	Pro	Ser	Thr	Cys	Leu
		20						25				30	

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Arg	Asp	Phe	Val	Glu	Gly	Val	Ser	Gly	Gly	Ser	Trp	Val	Asp	Ile	Val
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Leu Glu His Gly Ser Cys Val Thr Thr Met Ala Lys Asn Lys Pro Thr
 20 25 30

Leu Asp Phe
 35

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Arg Asp Phe Ile Glu Gly Ala Ser Gly Ala Thr Trp Val Asp Leu Val
 1 5 10 15

Leu Glu Gly Asp Ser Cys Leu Thr Ile Met Ala Asn Asp Lys Pro Thr
 20 25 30

Leu Asp Val
 35

<210> 8
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Arg Asp Phe Ile Glu Gly Val His Gly Gly Thr Trp Val Ser Ala Thr
1 5 10 15

Leu Glu Gln Asp Lys Cys Val Thr Val Met Ala Pro Asp Lys Pro Ser
20 25 30

Leu Asp Ile
35

<210> 9

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<400> 9

Arg Asp Phe Leu Glu Gly Val Ser Gly Ala Thr Trp Val Asp Leu Val
1 5 10 15

Leu Glu Gly Asp Ser Cys Val Thr Ile Met Ser Lys Asp Lys Pro Thr
20 25 30

Ile Asp Val

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Gly	Gln	Leu	Ala	Cys	Lys	Glu	Asp	Tyr	Arg	Tyr	Ala	Ile	Ser	Ser	Thr
1				5					10					15	

Asn	Glu	Ile	Gly	Leu	Leu	Gly	Ala	Gly	Gly	Leu	Thr	Thr	Thr	Trp	Lys
			20					25						30	

Glu	Tyr	Asn
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Gly	His	Leu	Asp	Cys	Lys	Pro	Glu	Phe	Ser	Tyr	Ala	Ile	Ala	Lys	Asp
1				5					10					15	
Glu	Arg	Ile	Gly	Gln	Leu	Gly	Ala	Glu	Gly	Leu	Thr	Thr	Thr	Trp	Lys
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Glu	Tyr	Ser													
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Gly	Glu	Phe	Ala	Cys	Arg	Glu	Asp	His	Arg	Tyr	Ala	Leu	Ala	Lys	Thr
1				5					10					15	
Lys	Glu	Ile	Gly	Pro	Leu	Gly	Ala	Glu	Ser	Leu	Thr	Thr	Thr	Trp	Thr
			20					25						30	
Asp	Tyr	Gln													
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 <400> 13

 Thr Cys Asp Ala Leu Asp Ile Gly Glu Leu Cys Gly Ala Cys Val Leu
 1 5 10 15
 Val Gly Asp Trp Leu Val Arg His Trp Leu Ile His Ile Asp Leu Asn
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 Glu Thr

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<400> 14

Lys Arg Phe Val Cys Lys His Ser Met Val Asp Arg Gly Trp Gly Asn
1 5 10 15

Gly Cys Gly Leu Phe Gly Lys Gly Gly Ile Val Thr Cys Ala Met Phe
20 25 30

Thr Cys

<210> 15

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Ser Ser Tyr Val Cys Lys Gln Gly Phe Thr Asp Arg Gly Trp Gly Asn
1 5 10 15

Gly Cys Gly Leu Phe Gly Lys Gly Ser Ile Asp Thr Cys Ala Lys Phe
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Ser Cys

<210> 16

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<400> 16

Gly	Asp	Asn	Ala	Cys	Lys	Arg	Thr	Tyr	Ser	Asp	Arg	Gly	Trp	Gly	Asn
1				5				10					15		

Gly	Cys	Gly	Leu	Phe	Gly	Lys	Gly	Ser	Ile	Val	Ala	Cys	Ala	Lys	Phe
			20				25					30			

Thr Cys

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<400> 17

Pro Ala Phe Val Cys Arg Gln Gly Val Val Asp Arg Gly Trp Gly Asn
 1 5 10 15
 Gly Cys Gly Leu Phe Gly Lys Gly Ser Ile Asp Thr Cys Ala Lys Phe
 20 25 30

Ala Cys

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<400> 18

Lys Gly Lys Tyr Asn Thr Thr Leu Leu Asn Gly Ser Ala Phe Tyr Leu
 1 5 10 15
 Val Cys Pro Ile Gly Trp Thr Gly Val Ile Glu Cys Thr Ala Val Ser
 20 25 30

Pro Thr

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<400> 19

Arg	Gly	Lys	Phe	Asn	Thr	Thr	Leu	Leu	Asn	Gly	Pro	Ala	Phe	Gln	Met
1				5					10					15	

Val	Cys	Pro	Ile	Gly	Trp	Thr	Gly	Thr	Val	Ser	Cys	Thr	Ser	Phe	Asn
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Met Asp

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Arg	Gly	Lys	Tyr	Asn	Ala	Thr	Leu	Leu	Asn	Gly	Ser	Ala	Phe	Gln	Leu
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Val Cys Pro Tyr Glu Trp Thr Gly Arg Val Glu Cys Thr Thr Ile Ser
 20 25 30

Lys Ser

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<400> 21

Ile His Ile Asp Leu Asn Glu Thr Gly Thr Cys Tyr Leu Glu Val Pro
 1 5 10 15

Thr Gly Ile Asp Pro Gly Phe Leu Gly Phe Ile Gly Trp Met Ala Gly
 20 25 30

Lys Val Glu Ala
 35

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Met	Val	Leu	Leu	Gln	Met	Glu	Asp	Lys	Ala	Trp	Leu	Val	His	Arg	Gln
1				5					10					15	

Trp	Phe	Leu	Asp	Leu	Pro	Leu	Pro	Trp	Leu	Pro	Gly	Ala	Asp	Thr	Gln
		20						25					30		

Gly	Ser	Asn	Trp
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Phe	Tyr	Val	Met	Thr	Val	Gly	Ser	Lys	Ser	Phe	Leu	Val	His	Arg	Glu
1				5					10					15	

Trp	Phe	His	Asp	Leu	Ala	Leu	Pro	Trp	Thr	Ser	Pro	Ser	Ser	Thr	Ala
			20					25					30		

Trp	Arg	Asn	Arg
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35

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<400> 24

Ser Tyr Ile Ala Glu Met Glu Thr Glu Ser Trp Ile Val Asp Arg Gln
1          5          10          15

Trp Ala Gln Asp Leu Thr Leu Pro Trp Gln Ser Gly Ser Gly Gly Val
20          25          30

Trp Arg Glu Met
35

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Tyr	Tyr	Val	Met	Thr	Val	Gly	Thr	Lys	Thr	Phe	Leu	Val	His	Arg	Glu
1				5					10					15	
Trp	Phe	Met	Asp	Leu	Asn	Leu	Pro	Trp	Ser	Ser	Ala	Gly	Ser	Thr	Val
			20					25					30		
Trp	Arg	Asn	Arg												
			35												

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<400> 26

Thr	Leu	Arg	Thr	Glu	Val	Val	Lys	Thr	Phe	Arg	Arg	Asp	Lys	Pro	Phe
1				5					10					15	
Pro	His	Arg	Met	Asp	Ala	Val	Thr	Thr	Val	Glu	Asn	Glu	Asp	Leu	
			20				25				30				
Phe	Tyr														

<210> 27

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<400> 27

Thr	Leu	Ala	Thr	Glu	Val	Val	Lys	Ile	Tyr	Lys	Arg	Thr	Lys	Arg	Phe
1				5					10					15	
Arg	Ser	Gly	Leu	Val	Ala	Thr	His	Thr	Thr	Ile	Tyr	Glu	Glu	Asp	Leu
			20					25					30		

Tyr His

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<220>
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 <222> (33)..(33)
 <223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic,

macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 28

Thr Leu Ala Thr Thr Val Val Arg Thr Tyr Arg Arg Ser Lys Pro Phe
1 5 10 15

Pro His Arg Gln Gly Ala Ile Thr Gln Lys Asn Leu Gly Glu Asp Leu
20 25 30

His

<210> 29

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<220>

<221> MOD_RES

<222> (1)..(1)

<223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxyl, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>

<221> MOD_RES

<222> (42)..(42)

<223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 29

Trp Met Ala Gly Lys Val Glu Ala Val Ile Phe Leu Thr Lys Leu Ala
1 5 10 15

Ser Gln Val Pro Tyr Ala Ile Ala Thr Met Phe Ser Ser Val His Tyr
20 25 30

Leu Ala Val Gly Ala Leu Ile Tyr Tyr Ser
35 40

<210> 30

<211> 42

<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxy, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
<221> MOD_RES
<222> (42)..(42)
<223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 30

Met Ala Ile Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser Leu Gly Gly
1 5 10 15

Val Phe Thr Ser Ile Gly Lys Ala Leu His Gln Val Phe Gly Ala Ile
20 25 30

Tyr Gly Ala Ala Phe Ser Gly Val Ser Trp
35 40

<210> 31
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxy, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
<221> MOD_RES
<222> (42)..(42)
<223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 31

- 21 -

Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser Ile Gly Gly
1 5 10 15

Val Phe Asn Ser Ile Gly Lys Ala Val His Gln Val Phe Gly Gly Ala
 20 25 30

Phe Arg Thr Leu Phe Gly Gly Met Ser Trp
 35 40

<210> 32
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> The amino-terminal amino acid residue comprises an amino group or
is modified to contain one of the following groups: acetyl,
hydrophobic, macromolecular, carbobenzoxyl, dansyl,
t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
<221> MOD_RES
<222> (42)..(42)
<223> The carboxy-terminal amino acid residue comprises a carboxyl
group or one of the following groups: amido, hydrophobic,
macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or
carbohydrate

<400> 32

Leu Ala Val Met Gly Asp Thr Ala Trp Asp Phe Ser Ser Ala Gly Gly
1 5 10 15

Phe Phe Thr Ser Val Gly Lys Gly Ile His Thr Val Phe Gly Ser Ala
 20 25 30

Phe Gln Gly Leu Phe Gly Gly Leu Asn Trp
 35 40

<210> 33
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxyl, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
 <221> MOD_RES
 <222> (42)..(42)
 <223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 33

Leu	Ala	Ala	Leu	Gly	Asp	Thr	Ala	Trp	Asp	Phe	Gly	Ser	Val	Gly	Gly
1			5					10						15	
Val	Phe	Thr	Ser	Val	Gly	Lys	Ala	Val	His	Gln	Val	Phe	Gly	Gly	Ala
			20				25						30		
Phe	Arg	Ser	Leu	Phe	Gly	Gly	Met	Ser	Trp						
		35					40								

<210> 34
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxyl, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
 <221> MOD_RES
 <222> (42)..(42)
 <223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 34

Gln Gln Tyr Met Leu Lys Gly Glu Tyr Gln Tyr Trp Phe Asp Leu Asp
1 5 10 15

Val Thr Asp Arg His Ser Asp Tyr Phe Ala Glu Phe Val Val Leu Val
20 25 30

Val Val Ala Leu Leu Gly Gly Arg Tyr Ile
35 40

<210> 35

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<220>

<221> MOD_RES

<222> (1)..(1)

<223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxy, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>

<221> MOD_RES

<222> (42)..(42)

<223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 35

Gln Gln Tyr Met Leu Lys Gly Glu Tyr Gln Tyr Trp Phe Asp Leu Glu
1 5 10 15

Val Thr Asp His His Arg Asp Tyr Phe Ala Glu Ser Ile Leu Val Val
20 25 30

Val Val Ala Leu Leu Gly Gly Arg Tyr Val
35 40

<210> 36

<211> 43

<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> The amino-terminal amino acid residue comprises an amino group or is modified to contain one of the following groups: acetyl, hydrophobic, macromolecular, carbobenzoxy, dansyl, t-butyloxycarbonyl, lipid, polyethylene glycol, or carbohydrate

<220>
<221> MOD_RES
<222> (43)..(43)
<223> The carboxy-terminal amino acid residue comprises a carboxyl group or one of the following groups: amido, hydrophobic, macromolecular, t-butyloxycarbonyl, lipid, polyethyleneglycol, or carbohydrate

<400> 36

Gln	Gln	Tyr	Met	Leu	Lys	Gly	Gln	Tyr	Gln	Tyr	Trp	Phe	Asp	Leu	Glu
1				5					10					15	

Val	Ile	Ser	Ser	Thr	His	Gln	Ile	Asp	Leu	Thr	Glu	Phe	Ile	Met	Leu
			20					25					30		

Ala	Val	Val	Ala	Leu	Leu	Gly	Gly	Arg	Tyr	Val
		35				40				

<210> 37
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<220>
<221> misc_feature
<222> (2)..(2)
<223> Xaa can be any naturally occurring amino acid

<400> 37

Arg	Xaa	Arg	Lys	Arg
1			5	

<210> 38
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 38

Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr Gln Val Arg Asn Ser Ser
1 5 10 15

Gly Leu

<210> 39

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 39

Ser Ala Tyr Gln Val Arg Asn Ser Ser Gly Leu Tyr His Val Thr Asn
1 5 10 15

Asp Cys

<210> 40

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 40

Ser Ser Gly Leu Tyr His Val Thr Asn Asp Cys Pro Asn Ser Ser Ile
1 5 10 15

Val Tyr

<210> 41

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 41

Thr Asn Asp Cys Pro Asn Ser Ser Val Val Tyr Glu Ala Ala Asp Ala

1 5 10 15

Ile Leu

<210> 42
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 42

Ser Ile Val Tyr Glu Ala Ala Asp Ala Ile Leu His Thr Pro Gly Cys
1 5 10 15

Val Pro

<210> 43
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 43

Asp Ala Ile Leu His Thr Pro Gly Cys Val Pro Cys Val Arg Glu Gly
1 5 10 15

Asn Ala

<210> 44
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 44

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Ala Ser Arg Cys Trp Val
1 5 10 15

Ala Val

<210> 45
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 45

Trp	Val	Ala	Val	Thr	Pro	Thr	Val	Ala	Thr	Arg	Asp	Gly	Lys	Leu	Pro
1				5					10					15	

Thr Thr

<210> 46
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 46

Trp	Val	Ala	Val	Thr	Pro	Thr	Val	Ala	Thr	Arg	Asp	Gly	Lys	Leu	Pro
1				5					10					15	

Thr Thr

<210> 47
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 47

Val	Ala	Thr	Arg	Asp	Gly	Lys	Leu	Pro	Thr	Thr	Gln	Leu	Arg	Arg	His
1				5					10					15	

Ile Asp

<210> 48

<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 48

Leu	Pro	Thr	Thr	Gln	Leu	Arg	Arg	His	Ile	Asp	Leu	Leu	Val	Gly	Ser
1				5					10					15	

Ala Thr

<210> 49
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 49

Arg	His	Ile	Asp	Leu	Leu	Val	Gly	Ser	Ala	Thr	Leu	Cys	Ser	Ala	Leu
1				5					10					15	

Tyr Val

<210> 50
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 50

Gly	Ser	Ala	Thr	Leu	Cys	Ser	Ala	Leu	Tyr	Val	Gly	Asp	Leu	Cys	Gly
1				5					10					15	

Ser Val

<210> 51
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 51

Ala Leu Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Gly Gln
1 5 10 15

Leu Phe

<210> 52

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 52

Cys Gly Ser Val Phe Leu Val Gly Gln Leu Phe Thr Phe Ser Pro Arg
1 5 10 15

His His

<210> 53

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 53

Gly Gln Leu Phe Thr Phe Ser Pro Arg His His Trp Thr Thr Gln Asp
1 5 10 15

Cys Asn

<210> 54

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 54

Pro Arg His His Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr Pro

1 5 10 15

Gly His

<210> 55
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 55

Gln Asp Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg
1 5 10 15

Met Ala

<210> 56
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 56

Tyr Pro Gly His Ile Thr Gly His Arg Met Ala Asn Met Met Met Asn
1 5 10 15

Trp

<210> 57
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 57

His Arg Met Ala Asn Met Met Met Asn Trp Ser Pro Thr Ala Ala Leu
1 5 10 15

Val

<210> 58
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 58

Met	Met	Asn	Trp	Ser	Pro	Thr	Ala	Ala	Leu	Val	Val	Ala	Gln	Leu	Leu
1				5					10					15	

Arg Ile

<210> 59
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 59

Ala	Ala	Leu	Val	Val	Ala	Gln	Leu	Leu	Arg	Ile	Pro	Gln	Ala	Ile	Met
1				5					10					15	

Asp Met

<210> 60
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 60

Leu	Leu	Arg	Ile	Pro	Gln	Ala	Ile	Met	Asp	Met	Ile	Ala	Gly	Ala	His
1				5					10					15	

Trp Gly

<210> 61
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 61

Ile Met Asp Met Ile Ala Gly Ala His Trp Gly Val Leu Ala Gly Ile
1 5 10 15

Lys Tyr

<210> 62

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 62

Ala His Trp Gly Val Leu Ala Gly Ile Lys Tyr Phe Ser Met Val Gly
1 5 10 15

Asn Trp

<210> 63

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 63

Gly Ile Lys Tyr Phe Ser Met Val Gly Asn Trp Ala Lys Val Leu Val
1 5 10 15

Val Leu

<210> 64

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 64

- 33 -

Val Gly Asn Trp Ala Lys Val Leu Val Val Leu Leu Leu Phe Ala Gly
1 5 10 15
Val Asp

<210> 65
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 65

Leu Val Val Leu Leu Leu Phe Ala Gly Val Asp Ala Glu Thr His Val
1 5 10 15

Thr Gly